GAYDUK, K. V.

ANDREYEV, Oleg Vladimirovich; BOLDAKOV, Evgeniy Vasil'yevich; GAYDUK, Kirill Vasil'yevich; KOSHELEV, Vyacheslav Aleksandrovich; NODIN, Arkadiy Ivanovich; ROYER, Evgeniy Nikolayevich; BOLDAKOV, Ye.V., doktor tekhnicheskikh nauk, redaktor; KUZNETSOV, I.A., redaktor; GALAKTIONOVA, Ye.N., tekhnicheskiy redaktor.

[Concise handbook on conduits and small bridges; research and planning] Kratkii spravochnik po trubam i malym mostam; izyskaniia i proektirovanie. Pod obshchei red. E.V.Boldakova. Izd.2-oe, perer. Moskva, Nauchno-tekhnicheskoe izd-vo avtotranp. lit-ry, 1956. 211 p. (MLRA 9:5)
(Bridges) (Pipes, Concrete)

IGOLKIN, Nikolay Ivanovich, inzh.; GAYDUK, Kirill Vasil'yevich, inzh.; GUDIMA, Vladimir Savvich, inzh.; KORSUNSKIY, Mark Borisovich, kand. tekhn.nauk; NIKONOV, Petr Vasil'yevich, inzh.; SARKIS'YANTS, Georgiy Aleksandrovich, inzh.; SARSATSKIKH, Prokhor Ignat'yevich, inzh.; ORNATSKIY, N.V., prof., doktor tekhn.nauk, glavnyy red.; BYALOBZHESKIY, G.V., kand.tekhn.nauk, red.; IVANOV, S.S., red.; GALAKTIONOVA, Ye.N., tekhn.red.

[Manual for road builders; maintenance and repair of highways] Spravochnik inzhenera-dorozhnika; soderzhanie i remont avtomobil'nykh dorog. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transporta i shosseinykh dorog RSFSR, 1960. 326 p. (MIRA 13:9)
(Roads--Maintenance and repair)

GAYDUK, K.V., inzh.

Raise the degree of prefabrication in rebuilding bridges. Avt.dor. 24 no.6:20-21 Je '61. (MIRA 14:7)
(Bridges, Concrete—Maintenance and repair)
(Precast concrete construction)

VOLYA, Oleg Vladimirovich; GAYDUK, K.V., red.; BODANOVA, A.P., tekhn. red.

[Present-day wooden bridges] Sovremennye dereviannye mosty. Moskva, Avtotransizdat, 1963. 54 p. (MIRA 16:6)
(Bridges, Wooden)

ANDREYEV, Oleg Vladimirovich; BOLDAKOV, Yevgeniy Vasil'yevich; GAYDUK, Kirill Vasil'yevich; KOSHELEV, Vyacheslav Aleksandrovich; RODIN, Arkadiy Ivanovich; ROYER, Yevgeniy Nikolayevich [deceased]; GRIGOR'YEV, Ye.N., inzh., retsenzent; TRESKINSKIY, S.A., kand. geol.-mineral. nauk, retsenzent; GLINKA, N.N., red.; KOVRIZHNYKH, L.P., red.izd-va; BODANOVA, A.P., tekhn. red.

[Concise manual on conduits and small bridges] Kratkii spravochnik po trubam i malym mostam. [By] O.V.Andreev i dr. Izd.3., perer. Moskva, Avtotransizdat, 1963. 179 p. (MIRA 17:2)

GAYDUK, L.N.

Improvements in the lubrication system of the DT-54 tractor engine. Avt.trakt.prom. no.2:3-5 Fe '55. (MLRA 8:4)

1. Kharkovskiy traktornyy zavod.
(Tractors--Lubrication)

GAYDUK, L.N.

Heat resistance of the cylinder heads of the D-54 engine. Avt. trakt. prom. no.5:9-12 My '55. (MIRA 8:8)

1. Khar'kovskiy traktornyy zavod
(Tractors--Engines--Cylinders)

GAYDUK, L.N.

Efficient method of lubricating the crankshaft of the D-54 engine.
Avt. i trakt. prom. no.2:10-12 F '57. (MLRA 10:3)

1. Khar'kovskiy traktornyy zavod.
(Cranks and crankshafts)

GAYDUK, MOISEY I

"Utyug"; materialy i fakty o zagotovitel'noy deyatel'nosti russkikh vooyennykh komissiy v Amerike (The flat iron; materials and facts on the procurement activity of the Russian military commissions in America) N'yu-lork, 1918. 144 p.

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.G2

TARAN, Raisa, traktoristka; SOSNITSKAYA, Vera [Sosnyts'ka, Vira]; GAYDUK, Mikola [Halduk, Mykola], zvenevoy; SERDYUK, Tonay, zvenevaya

Beacon lights of the glory of the Communist Youth League. Znan. ta pratsia no.4:6-7 Ap '62. (MIRA 15:4)

1. Radgosp "Kermenchik" Velikonovosil'kivs'kogo rayonu Donets'koi oblasti (for Taran). 2. Zaviduyucha bibliotekoyu, sekretar komsomol's'koi organizatsii kolgospu im. Dzerzhins'kogo Tsumans'kogo rayonu Volins'koi oblasti (for Sosnitskaya). 3. Komsomol's'ko-molodizhna lanka kologospu im. XX z'izdu KPRS Malodivits'kogo rayonu Chernigivs'koi oblasti (for Gayduk). 4. Uchnivs'ka virobnichaya brigada Skorodistits'koi serednioi shkoli Chornobaivs'kogo rayonu na Cherkashchini (for Serdyuk).
(Ukraine--Corn (Maize))

Gayduk, M.P.

USSR/Optics - Photography K-11

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 13222

Author : Gayduk, M.P., Gayduk, V.I.
Inst : -
Title : Investigation of the Kinetics of the Development of Photoemulsions, Irradiated by Electrons.

Orig Pub : Sr. statey nauch. stud. o-va Most. energ. in-ta, 1955, vyp. 8, 69-73

Abstract : The existence of two regions of the fulfillment of the law of replaceability (at large and at small current densities j) for the photographic action of electronic beams (Kovner, I.A. Zh eksperim i teor fiziki, 1950, 20, No 5, 401-410) is necessary under the assumption that at various values of j there take place different machanisms of sensitization of the emulsion crystals -- the collective action at large j and the individual action at small j. On spectral photographic plates of type 1, exposed to a beam of 60 kev

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GAYDUK, P.K.; ROZENBERG, A.M. (g.Stalino)

Track is being improved on the main lines. Put' i put.khoz. no.1:4-6 Ja '59. (MIRA 12:2)

1. Nachal'nik sluzhby puti Donetskoy dorogi (for Gayduk).
2. Nachal'nik tekhnicheskogo otdela sluzhby puti Donetskoy dorogi (for Rozenberg).
(Railroads--Track)

GAYDUK, P.K.

For an improvement of the roadside along the tracks. Put' i put. khoz. 5 no.9:43 S '61. (MIRA 14:10)

1. Nachal'nik sluzhby puti, g. Stalino.
(Railroads—Maintenance and repair)

GAYDUK, P.K., inzh. (g.Stalino); ROZENBERG, A.M., inzh. (g.Stalino); TSELUYEVSKIY, N.M., inzh. (g.Stalino)

Carrying out comprehensive track maintenance during long traffic intervals. Zhel. dor. transp. 43 no. 7:64-68 Jl '61. (MIRA 14:7)

1. Nachal'nik sluzhby puti Donetskoy dorogi (for Gayduk). 2. Nachal'nik tekhnicheskogo otdela sluzhby puti Donetskoy dorogi (for Rozenberg). 3. Nachal'nik otdela iskusstvennykh sooruzheniy sluzhby puti Donetskoy dorogi (for TSeluyevskiy). (Railroads—Maintenance and repair)

GAYDUK, P.Kh.

Anesthesia in operations on the penis. Khirurgiia no.5:76 My '56.
(LOCAL ANESTHESIA) (MLRA 9:9)
(PENIS--SURGERY)

EXCERPTA MEDICA Sec.9 Vol.12/5 Surgery May 1958

GAYDUK, P.H.

2777. A METHOD OF BRONCHIAL STUMP CLOSURE IN PNEUMONECTOMY OR LOBECTOMY (Russian text) - Gayduk P.H. - VESTN.KHIR. 1957, 79/9 (70-79 and 158)

Surgical interventions were carried out on 123 dogs. The methods of stump closure were of 2 kinds: (1) closure by suture: 4 series of experiments, following, in the main, the method of Sweet (35 interventions) and (2) closure by rib cartilage: 2 series of experiments (60 operations). It is contended that in the latter series the postoperative and following periods had had a more favourable course than in the former, the former, i.e. the stump closed by suture, resulting in early acute purulent, phlegmonous inflammation which later on changed into a chronic suppurative process. A stump closed by rib cartilage passed through the periods of healing in practically aseptic conditions promoting prompt regeneration and smooth uneventful recovery.

Chair operative surgery, Military Medical Ak. Academy im S. M. Kirov

GAYDUK, P.Kh. (g. Rovno, pochtovoye otdeleniye no.1, do vostrebovaniya)

Comparative evaluation of methods for closing the bronchial stump in the resection of a lung. Grud. khir. 2 no.2:68-76 Mr-Ap'60. (MIRA 16:7)

1. Iz kafedry operativnoy khirurgii (nachal'nik - prof. A.N. Maksimenkov) Voyenno-meditsinskoy akademii imeni S.M.Kirova i voyennogo gospitalya (nachal'nik - kand. med. nauk S.I. Starostenko)

(BRONCHI--SURGERY)

GAYDUK, P. Kh., kand. med.nauk

Resection of the superior vena cava. Vestn. khir. Grekov. 90 no.4:88 Ap'63 (MIRA 17:2)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. I.M. Grabchenko) Vinnitskogo meditsinskogo instituta.

GAYDUK, P. Kh. (Vinnitsa, 4-ye pochtovoye otdeleniye, do vostrebovaniya)

Closure of the bronchial stump using a preserved costal cartilage. Vest. khir. 92 no.4:21-25 Ap '64 (MIRA 18:1)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. I.K.Grabchenko) Vinnitskogo meditsinskogo instituta imeni N.I. Pirogova.

GRABCHENKO, I.M., prof.; GAYDUK, P.Kh., kand. med. nauk

Alloplasty in subtotal resection of the sternum. Vest. khir. 94 no.2:96-97 F '65. (MIRA 18:5)

1. Iz fakul'tetskoy khirurgicheskoy kliniki Vinnitskogo meditsinskogo instituta.

GAYDUK, S.I.; IVANOV, A.V.

Problem in the conjugation of equations of the parabolic and hyperbolic types. Dokl. AN BSSR 8 no.9:560-563 S '64.

(MIRA 17:12)

1. Institut matematiki i vychislitel'noy tekhniki AN Belorusskoy SSR.

GAYDUK, S.I.

A problem involving the conjugation of differential equations.
Dokl. AN BSSR 8 no.12:763-766 D '64. (MIRA 18:4)

1. Institut matematiki i vychislitel'noy tekhniki AN BSSR.

GAYDUK, S.I.

Use of the contour integral in solving a problem involving the conjugation of parabolic and hyperbolic equations. Dif. urav. 1 no.10:1366-1382 O '65. (MIRA 18:10)

1. Institut matematiki AN BSSR.

GAYDUK, S.N.; SHEKHTMAN, V.B.

Our practices in inspecting ships and cargoes. Zashch. rast. ot vred. i bol. 4 no.5:44-45 S-O '59. (MIRA 16:1)

1. Karantinnyye inspektory Odesskogo porta.
(Odessa--Plant quarantine)

GAYDUK, S.N., agronom-inspektor (Odessa)

Quarantine inspection of whaling flotillas. Zashch. rast. ot vred. i bol. 8 no.3:47 Mr '63. (MIRA 17:1)

GAYDUK, S.N., agronom-inspektor; OSOKIN, G.I., agronom-inspektor

Inspection of unloaded ships. Zashch. rast. ot vred. i bol. 9 no.3:45-46 '64. (MIRA 17:4)

1. Il'ichevskiy karantinnyy punkt.

Gayduk, V. I.

K-11

USSR/Optics - Photography

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 13222

Author : Gayduk, M.P., Gayduk, V.I.
Inst : -
Title : Investigation of the Kinetics of the Development of Photoemulsions, Irradiated by Electrons.

Orig Pub : Sr. statey nauch. stud. o-va Most. energ. in-ta, 1955, vyp. 8, 69-73

Abstract : The existence of two regions of the fulfillment of the law of replaceability (at large and at small current densities j) for the photographic action of electronic beams (Kovner, I.A. Zh eksperim i teor fiziki, 1950, 20, No 5, 401-410) is necessary under the assumption that at various values of j there take place different machanisms of sensitization of the emulsion crystals -- the collective action at large j and the individual action at small j. On spectral photographic plates of type 1, exposed to a beam of 60 kev

Card : Card 1/2

GAYDUK, V.I.

Electronic kilovoltmeter. Priborostroenie no.10:20-22 O '56.
(Electron-tube voltmeter) (MLRA 9:12)

S/020/60/133/04/04/031
B019/B060

AUTHOR: Gayduk, V. I.

TITLE: Nonlinear Oscillations in a Weak Outer Field, Described by Lagrange's Equations

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 4, pp. 760-763

TEXT: The Lagrange's equations (1) are written down for a system with n degrees of freedom, and the motion of the system without nonconservative forces is assumed to be known. The solution of system (1) is obtained by the variation of the constants C in the solutions of Lagrangian equations (2), which hold for a system which is free from nonconservative forces. These 2n functions C(t) are determined by means of a canonical transformation of the generalized coordinates, and the author obtains the differential equation systems (4) and (5) for the new canonical coordinates. These differential equations are discussed for the cases in which the new canonical coordinates and momenta are constants, and furthermore where time does not occur explicitly in the

canonical transformation. Next, the author considers the case of a one-dimensional rotary oscillation. The exact equations (10) are obtained for amplitudes and phases, and the simplification of (10) is treated in detail. Equations (14) in the first approximation are obtained for (10). Finally, the general case of a motion near the periodic motion is examined. The author first discusses the case in which (2) describes a multiperiodic motion. He then passes over to the case in which (2) is m-fold degenerate. The cases are further dealt with in which the nonconservative forces in (1) are small and contain or do not contain the time explicitly. The author thanks D. N. Zubarev and Yu. A. Mitropol'skiy for their discussion of the work, and also V. M. Volosov. There are 7 Soviet references.

PRESENTED: March 9, 1960, by N. N. Bogolyubov, Academician

SUBMITTED: March 8, 1960

L 25249-65 EWT(d) Pg-4 IJP(c)

ACCESSION NR: AT5002003 S/3121/64/000/002/0033/0051 20 B+1

AUTHOR: Gayduk, V.I. 16

TITLE: Asymptotic equations for non-linear systems with motion which is almost periodic

SOURCE: AN UkrSSR. Institut matematiki. Priblizhennyye metody resheniya differentsial'nykh uravneniy, no. 2, 1964, 33-51

TOPIC TAGS: differential equation, Lagrange equation, periodic motion, generalized coordinate, partial differential equation, nonlinear differential equation, asymptotic equation

ABSTRACT: The paper considers a system with n degrees of freedom (in general, non-conservative), satisfying Lagrange's equations of motion

$$\frac{d}{dt}\frac{\partial L}{\partial \dot{q}_k} - \frac{\partial L}{\partial q_k} = Q_k \quad (k = 1, \ldots, n). \qquad (1)$$

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where the Q_k are small, giving the system a motion close to periodic. The equations are solved in the case where the Q_k are zero. With the help of the method of variation of parameters, the parameters being the arbitrary constants coming from the solution of Lagrange's equation in the general case,

$$\frac{d\omega_k}{dt} = \nu_k(I_1, \ldots, I_n) - \sum_i Q_i \frac{\partial q_i(\omega_i, I_1, \ldots, I_n)}{\partial I_k} \qquad (i, k = 1, \ldots, n). \tag{2}$$

$$\frac{dI_k}{dt} = Q_k \frac{\partial q_k(\omega_k, I_1, \ldots, I_n)}{\partial \omega_k} = \frac{Q_k \dot{q}_k}{\nu_k(I_1, \ldots, I_n)} \tag{3}$$

for the "amplitude" and "phase" of a system in almost periodic motion are derived. From these equations, the rate of change of the various system parameters is calculated. The condition for resonance is calculated explicitly in the case of systems having one degree

L 25249-65

ACCESSION NR: AT5002003

of freedom. An appendix presents calculations for the case when the energy function Q has the form

$$Q = Q_1(\theta_1)\,Q_2(q, \dot{q}), \quad \text{where } Q_1(\theta_1) \equiv Q_1(\theta_1 + 2\pi). \tag{4}$$

where the function Q_1 depends only on time and Q_2 depends on the coordinate q and the velocity. Orig. art. Has: 3 figures and 51 formulas.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MA, ME

NO REF SOV: 008 OTHER: 001

Card 3/3

L 27539-66

ACC NR: AP6007499 SOURCE CODE: UR/0109/66/011/002/0219/0232

AUTHOR: Gayduk, V. I.

34
B

ORG: none

TITLE: Small-signal polarization theory of curvilinear-beam devices

SOURCE: Radiotekhnika i elektronika, v. 11, no. 2, 1966, 219-232

TOPIC TAGS: electron tube, electron beam, waveguide

ABSTRACT: An attempt is made to compose a self-consistent theory of interaction between a curvilinear electron beam and a waveguide line; Coulomb forces of charged particles (the "space charge") are taken into account. The analysis starts either with a wave equation for the resultant vector potential $\vec{A}_\Sigma$ or (in case of a periodic process) a wave equation for the field $\vec{E} = -j\omega\vec{A}_\Sigma$. The currents and charges in these equations are expressed in terms of δ-functions. For a limited cross-section beam surrounded by a waveguide, the solution is obtained by expanding the field $\vec{E}$ into a normal-wave series with coefficients depending on z. In the second variant of the theory, the Coulomb portion of the field is expressed via rf-coordinates of electrons from a solution of a Laplace's equation. Very simple solutions result if a thin electron beam moves parallel to the waveguide axis. The above techniques can be used for composing a small-signal theory of M-type tubes. A dispersion equation

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Card 1/2 UDC: 621.371.11:621.385.632

L 27539-66

ACC NR: AP6007499 0

for the wave vector k is obtained for the case of an unlimited beam traveling with a constant velocity $\vec{v}_0$. It is illustrated by an example of a relativistic plasma moving in a magnetic field or in crossed fields."The author wishes to thank Yu. I. Grosberg and B. Z. Katsenelenbaum for a valuable discussion." Orig. art. has: 3 figures and 85 formulas.

SUB CODE: 09 / SUBM DATE: 07Oct64 / ORIG REF: 006 / OTH REF: 004

Card 2/2 BLG

29621
S/142/61/004/003/002/016
E192/E382

9.4230

AUTHORS: Gayduk, V.I., Nesterova, Ye.P. and Ostapenkov, A.M.

TITLE: Contribution to the simplified nonlinear theory of travelling-wave tubes

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, v. 4, no. 3, 1961, pp. 254 - 261

TEXT: The nonlinear theory of travelling-wave tubes (TWT) is well developed (Ref. 1 - A. Nordsiek, PIRE, 1953, 41, No. 5, 1196; Ref. 2 - Vaynshteyn, L.A., Nonlinear theory LBV, Parts I, II, III; Radiotekhnika i elektronika, 1957, Vol.2, No.7, 887 and 1947, v.2, No.8, 1027; 1958, 3, No. 1, 80; Ref. 3 - P.K. Tien, L.R. Walker, V.M. Wolontis - PIRE, 1955, 43, no. 3, 260; Ref. 4 - J.E. Rowe - IRE Trans. 1956, ED-3, no. 1, 39) but leads to complex integral-differential equations which cannot easily be solved. It appears, however, that comparatively simple methods of analysis of the nonlinear effects are possible. In particular, if it is required to evaluate the energy transferred to the field by a charge, it is not necessary to solve the equations of motion and the energy E(t) or E(x,y,z) can

Contribution to ....

be determined directly from the system of differential equations. The average power transferred by the electron beam to the high-frequency field can then be found by determining the mean of the solution over the whole ensemble of particles. This approach is illustrated in the article. It is assumed that an electron moving along the axis x interacts with the electric field $E_1 \cdot e^{\gamma x} \cdot \cos(\omega t - \beta x)$ of the wave propagating along a slow-down structure, also along the axis x. The equation of motion of the electron is in the form:

$$m\ddot{x} = - eE_1 \cdot e^{\gamma x} \cdot \cos(\omega t - \beta x) \qquad (3)$$

where:

$$e = |e| > 0; \quad \beta = \omega / v_\phi$$

where V_ϕ represents the phase velocity. Now, the electron efficiency can be expressed by:

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Contribution to ....

$$\eta = \frac{\frac{mu_0^2}{2} - \frac{mu^2}{2}}{\frac{mu_0^2}{2}} = 1 - \left(\frac{u}{u_0}\right)^2; \quad u = u_0 \cdot \sqrt{1-\eta}, \qquad (4)$$

where u_o is the velocity of the particle at the beginning of the interaction, and
u is the instantaneous velocity of the electron.
If it is assumed that η is the unknown and the second unknown is the phase $\phi = \omega t - \beta x$, the differential equations are in the form:

$$\frac{d\eta}{dx} = \frac{2eE_1}{mu_0^2} e^{\gamma x} \cdot \cos\Phi; \quad \frac{d\Phi}{dx} = \frac{\omega}{u_0}(1-\eta)^{-\frac{1}{2}} - \beta. \qquad (5)$$

The solution of $\eta(x)$ is dependent on the initial phase ϕ_o.
Eqs. (5) can further be written as:

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Contribution to ....

$$\frac{d\eta}{dy} = h \cdot \cos\Phi \cdot e^{-\mu_1 y}; \quad \frac{d\Phi}{dy} = \frac{1}{C}\left(\frac{1}{\sqrt{1-\eta}} - \frac{1}{1+C\mu_2}\right). \qquad (7)$$

where:

$$y = \frac{\omega \cdot C_x}{u_o}$$

and $h = 2eE_1/mu_o \cdot \omega C$ and μ_1, μ_2 are the Pierce parameters; C is the coupling coefficient between the beam and the line and h is the normalised initial amplitude of the wave. If the electronic efficiency of the system η is low, Eq. (7) can be simplified and written as:

$$\frac{d\xi}{dy} = H\cos\Phi \cdot e^{-\mu_1 y}; \quad \frac{d\Phi}{dy} = \xi + \mu_2; \quad H = \frac{h}{2C} = \frac{eE_1}{mv_0 \cdot \omega C^2}. \qquad (8)$$

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Contribution to ....

where $\xi = n/2C$. The systems of differential equations (7) and (8) are much simpler than the exact equations (Ref. 1). These equations were integrated numerically and the results are shown in some figures. In particular, the mechanism of the bunching of the electrons is illustrated in Fig. 3, where the electronic efficiency of the system is plotted as a function of the coordinate y . The figures illustrate two cases: in the first case, the electron velocity is small, which corresponds to $b = -1$, while, in the second case, the electron velocity is comparatively high ($b = 1.5$). The numbers shown on the curves in the figures illustrate the number of the electrons. The above method permits determination of the electron energy transferred to the high-frequency field and is in satisfactory qualitative and quantitative agreement with the exact theory. It can also be used to analyse more complex systems.
There are 5 figures and 11 references: 6 Soviet-bloc and 5 non-Soviet-bloc. The four English-language references mentioned are: Refs. 1,3,4. (quoted in text) and Ref. 7 - C.C. Cutler - BSTJ, 1956, 35, No. 4, 841.

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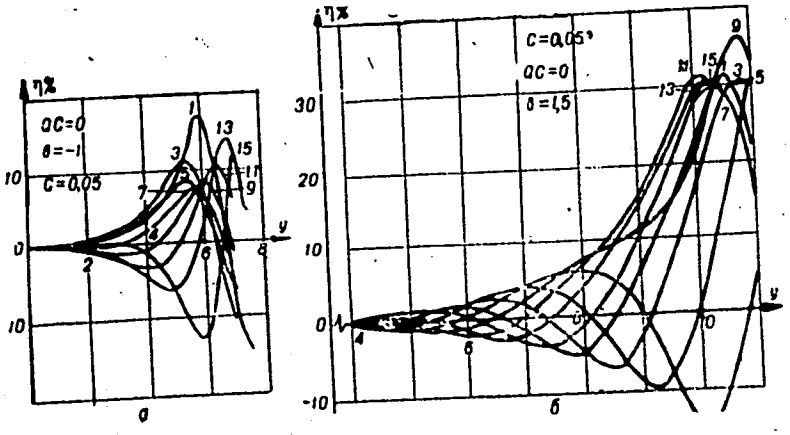
29621
S/142/61/004/003/002/016
E192/E382

Contribution to ....

ASSOCIATION: Institut radiotekhniki i elektroniki AN SSSR (Institute of Radio-engineering and Electronics of the AS USSR)

SUBMITTED: October 17, 1960

Fig. 3:



Card 6/6

L 31288-65 EWT(1)/EEC-4/EWA(h) Peb
ACCESSION NR: AP5005344 S/0109/65/010/002/0284/0301

AUTHOR: Gayduk, V. I.; Tseytlin, M. B.

27
25
13

TITLE: Theory of electron waveguides with rotating electron beam

SOURCE: Radiotekhnika i elektronika, v. 10, no. 2, 1965, 284-301

TOPIC TAGS: E type tube, ribbon beam

ABSTRACT: This is a further development of a theoretical work by W. M. Nunn (IRE Trans., 1961, ED-8, 6, 508; Electronics and Control, 1963, 15, 3, 201) on E-type systems. The interaction of a thin-ribbon electron beam with a traveling wave is analyzed as a two-dimensional problem; it is assumed that the pitch of the helical path of the beam, in the absence of h-f field, is small; the interaction with axial fields is neglected. The h-f structure proper acts as an external or internal focusing electrode. The distribution of the field amplitude in azimuth direction is explored by two methods: (a) integration of the equation of motion of an electron in the static field, in the TW field, and in the space-charge field, and (b) variation of the motion integrals. The above methods permitted grasping the

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ACCESSION NR: AP5005344 2

physical meaning of the phenomena involved and yielded simple formulas for the asymptotic gain and efficiency. The self-consistent field method permitted establishing a connection between the phase velocity of an undisturbed wave and the gain. It is found that the gain is largely determined by two factors: (a) the beam-wave coupling characterized by Pierce's C-parameter and (b) the Coulomb charge interaction described by D_e-parameter. Other distinctions from O- and M-type TW tubes are indicated. "The authors wish to thank Z. S. Chernov and G. A. Bernashevskiy for their valuable discussions." Orig. art. has: 7 figures and 80 formulas.

ASSOCIATION: none

SUBMITTED: 07Jan64 ENCL: 00 SUB CODE: EC, NP

NO REF SOV: 006 OTHER: 007

Card 2/2

ACC NR: AP6032920 SOURCE CODE: UR/0142/66/009/003/0316/0326

AUTHOR: Gayduk, V. I.; Tseytlin, M. B.

ORG: none

TITLE: Theory of cylindrical M-type beam instruments and the effect of space charge

SOURCE: IVUZ. Radiotekhnika, v. 9, no. 3, 1966, 316-326

TOPIC TAGS: electron amplifier, space charge, electron gun, radial beam tube

ABSTRACT: The theory of small signal amplifiers with a rotating electron beam formed by an electron gun, and with crossed-over electric and magnetic fields is presented. A disperison equation is derived from which, as a special case, known results for the E- and M-types of amplifier are determined. The bunching process in such amplifiers is compared. Special attention is given to cylindrical M-type amplifiers operating in large magnetic fields. The field of the space charge is considered for the care when the line walls are spaced either very far apart from or very close to the flat beam. Certain abnormal relationships are described between the amplification in M-type instruments and generalized parameters resulting from the instrument's non-planar structure. Orig. art. has: 4 figures and 20 formulas.

SUB CODE: 09, 20/ SUBM DATE: 04Jun65/ ORIG REF: 008/ OTH REF: 002/

UDC: 621.385.633.24

Card 1/1

GAYDUK, V.I.

Polarization theory of a small signal of rectilinear beam devices. Radiotekh. i elektron 11 no. 2:219-232 F '66 (MIRA 19:2)

1. Submitted October 7, 1964.

GAYDUK, V.M. [Hayduk, V.M.], inzh.

Electric heaters for raising chicks. Mekh. sel'. hosp. 9 no.9:25-26 S '58. (MIRA 11:10)
(Poultry houses and equipment) (Electric heating)

GAYDUK, V.M. [Haiduk, V.M.], inzh.-elektrik

Electric feed steamer for livestock farms. Mekh.sil'.hosp. 11 no.2:29 F '60. (MIRA 13:6)
(Farm equipment) (Feeds)

GAYDUK, V.M. [Haiduk, V.M.], inzh.

VET-200 electric water heater. Mekh. sil'. hosp. 11 no.12:11-12 D '60. (MIRA 13:12)

(Water heaters)

GAYDUK, V.M. [Haiduk, V.M.], inzh.; SEMENKO, M.V., rod.; SAVCHENKO, M.S., tekhn. red.

[Interior electrical wiring] Vnutrishnia elektrychna provodka. Kyiv, Derzhshil'hospvydav URSR, 1960. 62 p. (MIRA 15:7)

(Electric wiring, Interior)

GAYDUK, V. N. Cand Tech Sci -- (diss) "Study of the electrothermal properties of [redacted] straw cutting and design of electrode steam chambers." Kiev, 1959. 17 pp with drawings. (Min of Agr UkSSR. Ukrainian Acad of Agr), 150 copies (KL, 43-59, 123)

L 29383-66 EWT(m)/EWP(t)/ETI IJP(c) JD/HW/WB

ACC NR: AP6016586 (N) SOURCE CODE: UR/0129/66/000/005/0020/0022

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51
B

AUTHOR: Gayduk, V. V.; Koval', A. D.; Natapov, B. S.

ORG: Zaporozh Machine-Building Institute (Zaporozhskiy mashinostroitel'nyy institut)

TITLE: The structure and properties of heat-resistant ZhS-type nickel alloy on cooling

15 27

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 5, 1966, 20-22 and insert facing p. 33

TOPIC TAGS: nickel alloy, heat resistant alloy, alloy heat treatment, alloy rupture life, alloy structure, chromium containing alloy, tungsten containing alloy, molybdenum containing alloy, aluminum containing alloy, titanium containing alloy

ABSTRACT: The effect of annealing temperature on the structure and properties of ZhS-type nickel-base alloy (0.1%C, 16.2%Cu, 4.9%W, 4.4%Mo, 4%Fe, 2.9%Al, 2.4%Ti, 0.4%Si, 0.5%Mn, 0.02%B, 0.015%Ce) has been investigated. The alloy specimens were annealed at 1000—1300C for 4 hr and air cooled. It was found that with increasing annealing temperature, the notch toughness and the rupture life increase and reach a maximum with annealing at 1200C. The rupture life at 950C under a stress of

Card 1/2 UDC: 620.18:669.14.018.45

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ACC NR: AP6016586

12.5 kg/mm^2 was found to be 160 hr and the room temperature notch toughness, 6.5 mkg/cm^2. The most stable structure and best combination of properties were achieved by annealing at 1200C followed by aging. The danger of oxidation makes it necessary, however, to use greater machining allowances: not less than 0.3 mm. At smaller allowances the annealing has to be performed in a protective atmosphere, in a salt bath, or at lower temperature. Orig. art. has: 3 figures. [WW]

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 006/ ATD PRESS: 5005

Card 2/2

TULIN, M.A.; POZDEYEV, N.P.; YARTSEV, M.A., SERGEYEV, A.B.; ZHAVICHKIN, L.A., elektrik; GAYDUK, Yu.A., mekhanik

Adopting the vacuum induction furnace OKB-571-B. Metallurg 8 no.4:24-26 Ap '63. (MIRA 16:3)

(Electric furnaces—Design and construction)

KAPEL'NITSKIY, V.G.; SHVED, F.I.; KARTSEV, M.A.; TULIN, N.A.; POZDEYEV, N.P.; SERGEYEV, A.B.; MERENISHCHEVA, I.I.; KALININA, Z.M.; POZDNYAKOV, M.V. Prinimali uchastiye: KUZOVATOV, V.N.; MAKSUTOV, R.F.; MYSINA, G.Ye.; SHELGAYEVA, A.V.; ZHIVICHKIN, L.A.; GAYDUK, Yu.A.; GALYAN, V.S.; SOSKOV, D.A.; KHMELEV, I.I.; PARABINA, G.I.

Making steel and alloys in vacuum furnaces. Stal' 23 no.4:325-328 Ap '63. (MIRA 16:4)

(Vacuum metallurgy) (Electric furnaces)

GAYDUK, YU. M.

57/49T48

USSR/Mathematics Apr 49
Geometry, Lobachevskian

"Review of I. M. Gul''s Book, 'Lobachevskian Geometry,'" Yu. M. Gayduk, 2 pp

"Priroda," No 4

Book is one of the "Pedagogical Library for Teachers" series. Notes that even first few pages perplex the reader and fail to give Lobachevskiy sufficient credit for his work, as contrasted with Gauss and Bolya. Believes author included too much irrelevant material in such a small book (100 pp). Points out several errors from mathematical standpoint. Believes book is not worthy of publication in the above series.
FDD 57/49T48

GAYDUK, YU. M.

22916 Algebra i yeye metamorfozy. Matematika v shkole, 1949, No 4, C 13-20.

SO: LETOPIS' NO. 31, 1949

GAYDUK, Yu. M.

28187

Kakim ne dolzhny byt' metodicheskiya posobiya dlya zaochikov. (Kritich. obzdr.) Matematika v shkole, 1949, N 5. s. 49-51.

TAYDUK I-O. M. Which should not be methodical for the (Kritical observation) Mathematics in school. 1949, N5, page 49-51.

SO. LETOPIS NO. 34

GAYDUK, Yu. M.

New in Ukrainian methodlogical literature on mathematics. Reviews by Yu. M. Gayduk. Mat. v shkole, No 1, 1952.

1. GAYDUK, YU. M.

2. USSR (600)

4. Mathematics - Curiosa and Miscellany

7. Mathematics sophisms; some sophisms from elementary, and beginnings of higher mathematics. Mat v shkole No 6 1952

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

1. GAYDUK, Yu. M.

2. USSR (600)

4. Square

7. Amazing square. B. A. Kordemskii, N. V. Rusalev. Reviewed by Yu. M. Gayduk. Mat. v shkole No. 2, 1953.

9. **Monthly List of Russian Accessions, Library of Congress,** April **1953. Unclassified.**

1. GAYDUK, Yu. M.

2. USSR (600)

4. Rusalev, N. V.

7. "Amazing square." B. A. Kordemskii, N. V. Rusalev. Reviewed by Yu. M. Gayduk. Mat. v shkole No. 12, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

GAYDUK, Yu.M.

Galduk, Yu. M. On the history of the struggle for the recognition in Russia of the geometrical ideas of Lobačevskiĭ. Ukrain. Mat. Ž. 6, 476–478 (1954). (Russian)

Gayduk, Yu. M.
USSR/Scientists - Mathematicians

Card 1/1 : Pub. 86 - 11/36

Authors : Gayduk, Yu. M.

Title : The first instance in which Lobachevskiy's ideas are defended in Russia

Periodical : Priroda 43/8, 82-83, Aug 1954

Abstract : The article cites the writings of various authors of the 19th century to prove that, contrary to what is generally assumed, Lobachevskiy's mathematical theories were recognized in Russia.

Institution : ...

Submitted : ...

LUKOMSKAYA,A.; GAYDUK,Yu.M.

"Index to the literature on the Lobachevski geometry and on the development of its concepts." V.M.Gerasimova. Reviewed by A.Lukomskaia, IU.M.Gaiduk. Usp.mat.nauk 10 no.2:237-241 '55. (MLRA 8:8)

(Geometry, Non-Euclidean) (Gerasimova,V.M.)

GAYDUK, Yu.M. (Khar'kov)

Portrait of a mathematical genius. ("Lobachevskii; a novel." Ivan Zabotin. Reviewed by IU. M. Gaiduk). Priroda 44 no.6: 122-125 Je '55. (MLRA 8:7)
(Lobachevskii, Nikolai Ivanovich, 1793-1856--Fiction)
(Zabotin, Ivan)

GAYDUK, Yu.M.(Khar'kov)

Role of teacher-mathematicians M.E.Vashchenko-Zakharchenko and M.S.Volkov in popularising the ideas of Lobachevskii. Mat.v shkole no.2:78-84 Mr-Ap '56. (MLRA 9:6)
(Geometry, Non-Euclidean)(Vashchenko-Zakharchenko, Mikhail Egorovich, 1825-1912)(Volkov, Mikhail Sergeevich)

GAYDUK, Yu.M.(Khar'kov).

Materials on the history of mathematics published in the periodical "Matematika v shkole". Vop.ist.est. i tekh.no.2:291-294 '56.
(MLRA 10:1)

(Mathematics--History)

GAYDUK, Yu.M. (Khar'kov)

B.N. Delone's book "Concise demonstration of the consistency of Lobachevskii's plane geometry." Reviewed by IU.M. Gaiduk. Mat.v shkole no.3:69-70 My-Je '56. (MLRA 9:8)
(Geometry, Non-Euclidean)
(Lobachevskii, Nikolai Ivanovich, 1793-1856)
(Delone, Boris Nikolaevich, 1890-)

GAYDUK, Yu.M. (Khar'kov)

From the periodical "Teaching mathematics and physics". Mat.v shkole no.5:70-75 S-O '56. (MLRA 9:10)

(Yugoslavia--Mathematics--Study and teaching)(Yugoslavia--Physics--Study and teaching)

GAYDUK, Yu.M. (Khar'kov).

From the pages of the Czechoslovakian journal "Matematika ve skole." Mat.v shkole no.6:64-67 N-D '56. (MLRA 10:1)
(Czechoslovakia--Mathematics--Periodicals)

GAYDUK, Yu.M.

Supplementary materials to the history of the spread of N.I.Lobachevskii's ideas in Russia. Ist.-mat.issl.no.9: 215-246 '56. (MLRA 9:9)
(Lobachevskii, Nikolai Ivanovich, 1792-1856)
(Bibliography--Geometry, Non-Euclidean)

GAYDUK, Yu. M.

"V.IA. Buniakovskii as scientist and teacher." V.E. Prudnikov. Reviewed by IU.M. Gaiduk. Usp. mat.nauk 11 no.2:245-248 Mr-Ap '56. (Buniakovskii, Viktor Iakovilevich, 1804-1889) (MLRA 9:8) (Prudnikov, V.E.)

GAYDUK, Yu.M. (Khar'kov)

Collected works on the history of mathematics ("Studies in the history of mathematics." Reviewed by IU.M.Gaiduk). Priroda 45 no.9:118-120 S '56. (MLRA 9:10)
(Mathematics--History)

GAYDUK, Yu.M., (Khar'kov).

The Polish methodological periodical "Matematika" in 1955. Mat.v shkole no.1:77-83 Ja-F '57. (MLRA 10:2)
(Poland--Mathematics--Periodicals)

GAYDUK, Yu.M. (Khar'kov)

How to solve mathematical ("How to solve it" [in English] by G. Polya. Reviewed by IU. M. Gaiduk). Mat. pros. no.1:255-260 '57. (MIRA 11:7)

(Mathematics)

GAYDUK, Yu.M. (Khar'kov)

Textbooks on algebra used in Czechoslovakian high schools. Mat.v shkole no.2:55-58 Mr-Ap '57. (MLRA 10:5)
(Czechoslovakia--Algebra--Textbooks)

GAYDUK, Yu. M. (Khar'kov)

Austrian textbook of mathematics for naturalists and chemists ("Mathematik fuer Naturwissenschaftler und Chemiker" [in German] by H. Sirk. Reviewed by IU. M. Gaiduk). Mat. pros. no.2:307-314 '57. (MIRA 11:7)

(Mathematics--Textbooks)

GAYDUK, Yu.M. (Khar'kov).

The Chinese periodical "Shu Hsüeh T'ung Pao" for mathematics teachers. Mat. v shkole no.3:77-80 My-Je '57. (MLRA 10:6)
(China--Mathematics--Periodicals)

GAYDUK, V.M.

GAYDUK, V.M., inzh.

Operation and repair of magneto impulse starters. Mekh. sil'. hosp. [8] no.12:14-15 D '57. (MIRA 10:12)
(Electric motors--Starting devices)

GAYDUK, Yu.M. (Khar'kov).

From the pages of the journal "Mathematik and Physik in der Schule" (1955-1956). Mat. v shkole no.1:52-59 Ja-F '58. (MIRA 11:1)
(Germany East--Mathematics--Study and teaching)
(Germany East--Physics--Study and teaching)

GAYDUK, Yu.M. (Khar'kov).

Mathematical periodicals for secondary school students. Mat. v shkole no.2:71-76 Mr-Ap '58. (MIRA 11:2)
(Czechoslovakia--Mathematics--Periodicals)
(Rumania--Mathematics--Periodicals)
(Hungary--Mathematics--Periodicals)

GAYDUK, Yu.M. (Khar'kov)

Mathematical competitions in Czechoslovakia. Mat. v shkole. no.3:80-83 My-Je '58. (MIRA 11:5)
(Czechoslovakia--Mathematics--Competitions)

GAYDUK, Yu.M. (Khar'kov)

Czechoslovakian periodical for secondary school students.
Mat. pros. no.3:311-314 '58. (MIRA 11:9)
(Czechoslovakia--Mathematics--Periodicals)

GAYDUK, Yu.M. (Khar'kov); KHOVANSKIY, A.N. (Yoshkar-Ola).

Short survey of studies in triangle geometry. Mat. v shkole no.5: 50-58 S-O '58. (MIRA 11:10)

(Triangle)

GAYDUK, Yu.M. (Khar'kov).

Problems of mathematical education development in South Asian countries. Mat. v shkole no.6:72-77 N-D '58. (MIRA 11:12)
(Asia--Mathematics)

GAYDUK, Yu.M. (Khar'kov)

New tendencies in the teaching of mathematics in U.S. high schools. Mat. v shkole no.3:64-68 My-Je '59. (MIRA 12:9)
(United States--Mathematics--Study and teaching)

D., F. (Chekhoslovakiya); GAYDUK, Yu. N. [translator]

Short history of the Society of Czechoslovakian Mathematicians and Physicists. Mat.pros. no.4:95-110 '59. (MIRA 13:11)
(Czechoslovakia--Mathematics)

GAYDUK, Yu.M. (Khar'kov)

Life in the field of education in England. Mat. v shkole no.5:75-76 S-O '59. (MIRA 13:2)
(Mathematics--Study and teaching)

GAYDUK, Yu.M.

Karl Gustav Jakob Jacobi and his relationship to Russian matematicians. Ist.-mat. issl. no.12:245-268 '59. (MIRA 13:11)
(Jacobi, Karl Gustav Jakob, 1804-1851)

GAYDUK, Yu.M. (Khar'kov)

"Research in the history of mathematics," nos. 9-11. Vop.ist. est.i tekh. no.9:168-170 '60. (MIRA 13:7)
(Mathematics)

GAYDUK, Yu.M. (Khar'kov); [illegible], A.P. (Yoshkar-Ola)

Short survey of studies in triangle geometry. Mat. v shkole no. 6:70-79 N-D '60. (MIRA 14:2)
(Triangle)

GAYDUK, Yu.M.

Academician Mikhail Alekseevich Lavrent'ev; on his 60th birthday and 40th teaching anniversary. Mat. v shkole no.1:71-74 Ja-F '61.
(MIRA 14:3)
(Laverent'ev, Mikhail Alekseevich, 1900-)

ANDRONOV, I.K.; GAYDUK, Yu.M.; KALLING, R.

Proffessor Ivan IAkovlevich Depman; on his 75th birthday and 55th teaching anniversary. Mat. v shkole no.1:75-76 Ja-F '61.
(MIRA 14:3)

(Depman, Ivan IAkovlevich, 1885--)

GAYDUK, Yu.M.

"German-Russian mathematics dictionary" compiled by L. A. Kaluzhin and others. Reviewed by IU. M. Gaiduk. Usp. mat. nauk 16 no.1:238-240 Ja-F '61. (MIRA 14:6)
(Mathematics— Dictionaries)
(German language--Dictionaries--Russian) (Kaluzhin, L.A.)

GAYDUK, Yu.M. (Khar'kov)

"Pedagogics of mathematics" [in French] by Andre Fouche. Reviewed by IU.M.Gaiduk. Mat. pros. no.6:363-370 '61. (MIRA 15:3)
(Mathematics--Study and teaching)

GAYDUK, Yu.M. (Khar'kov)

I.IA.Depman; on the occasion of his 75th birthday. Vop.ist.est.i tekh. no.12:249 '62. (MIRA 15:4)
(Depman, Ivan Iakovlevich, 1885-)

GAYDUK, Yu.M.

Results of modernization of the mathematics course in Swiss secondary schools. Mat. v shkole no.5:77-79 S-O '63.
(MIRA 16:11)

GORDEVSKIY, Dmitriy Zakharovich; LEYBIN, Aleksandr Sergeyevich; GIRSHVAL'D, L.Ya., dots., retsenzent; GAYDUK, Yu.M., retsenzent; BLANK, Ya.P., prof., otv. red.; NESTERENKO, A.S., red.

[Popular introduction to multidimensional geometry] Populiarnoe vvedenie v mnogomernuiu geometriiu. Khar'kov, Izd-vo Khar'kovskogo univ., 1964. 190 p. (MIRA 17:5)

L 24374-66 EWT(l)/EWT(m)/EWP(w)/T/EWP(t) IJP(c) JD

ACC NR: AP6010441 SOURCE CODE: UR/0386/66/003/005/0227/0231

AUTHOR: Gaydukov, Yu. P.; Krechetova, I. P.

ORG: Physics Department of the Moscow State University im. M. V. Lomonosov (Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta)

TITLE: Quantum oscillations of surface resistance of zinc at 1 Mcs

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 3, no. 5, 1966, 227-231

TOPIC TAGS: quantum oscillation, surface property, galvanomagnetic effect, zinc, single crystal

ABSTRACT: This is a continuation of earlier work by the authors (ZhETF v. 49, 1411, 1965), where the large-amplitude low-frequency resistance oscillations in zinc were shown to be due not to the ordinary Shubnikov--de Haas effect but to magnetic breakdown of the Fermi surface of zinc. To investigate these unusual oscillations in greater detail, the authors measured the surface resistance of zinc single crystals at 1 Mcs, using a type IMI-2 nuclear magnetic pickup, employing a procedure first described by Ye. P. Vol'skiy (ZhETF v. 46, 123, 1964). The measurements were made at 1.4K in fields up to 22 koe. The modulation frequency of the external magnetic field was 20 cm. The zinc samples were the same as used in the earlier investigation. The geometry of the samples made it possible to carry out dc measurements simultaneously with the high frequency measurements. The measurements showed oscillations of $\partial R(H)/\partial H$, connected with different parts of the Fermi surface of zinc (with period

Card 1/2

up to 1 x 10^{-7} oe^{-1}). Particular attention was paid to oscillations due to the needle-like Fermi surface, and in this case two types of oscillations having the same period were observed. They differed in form and were shifted one half-cycle relative to each other. The distinguishing features of each cycle of oscillation are listed. The results are explained from the point of view that there exist in the magnetic field two possible mechanisms for formation of surface resistance: in weak fields the quantum oscillations of the surface resistance considered by M. Ya. Azbel' (ZhETF v. 37, 958, 1958) take place. In this case the electron orbit is only partially in the skin layer, and the case corresponds to the observed oscillations of the first type. In a strong field the entire electron orbit is in the skin layer, and the quantum oscillations are similar to those observed with dc. The difference in phase and shape of the two types of oscillations is due to the fact that the absorption is proportional to the number of effective electrons for the first and inversely proportional for the second. The authors thank M. I. Shpirov for technical help and Professor A. I. Shal'nikov for interest in the work. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 27Jan66/ ORIG REF: 003/ OTH REF: 002